CLAIMS

WHAT IS CLAIMED IS:

[c1] 1. A system for partitioning and loading data in a low-powered communication device, the system comprising:

a general computing subsystem;

a modem computing subsystem;

a clock; and

a shared memory module for receiving a binary data, wherein the shared memory module may be accessed by the general computing subsystem and the modem computing subsystem independently, and wherein the general computing subsystem selectively activates the clock to the shared memory module to permit use of the shared memory module by the modem computing subsystem.

[c2] 2. The system of claim 1 wherein the modem computing subsystem controls data processing in accordance with wireless communication protocols.

[c3] 3. The system of claim 2 wherein the modem computing subsystem further comprises a mobile station wireless modem.

[c4] 4. The system of claim 1 wherein the general computing subsystem further comprises a nonvolatile memory that stores information for generating the data.

[c5] 5. The system of claim 4 wherein the general computing subsystem loads the data into the shared memory module.

[c6] 6. The system of claim 4 wherein the general computing subsystem generates the data from compressed information stored in the nonvolatile memory.

[c7] 7. A portable wireless communication device, the device comprising:

a nonvolatile memory;

a general computing subsystem having access to the nonvolatile memory;

a modem computing subsystem selectively enabled and disabled by the general computing subsystem; and

a first shared memory module independently accessible by the general computing subsystem and the modem computing subsystem, the first shared memory module being selectively enabled and disabled by the general computing subsystem, and wherein a first binary image is loaded in the first shared memory module from the nonvolatile memory by the general computing subsystem when selectively enabled.

[c8] 8. The system of claim 7 wherein the first binary memory image comprises mobile station modem code sufficient to permit the modem computing subsystem to establish a wireless communication link and monitor a paging channel.

[c9] 9. The system of claim 8, wherein the modem computing subsystem and the first shared memory module are enabled when the computing subsystem starts to monitor the paging channel, and the modem computing subsystem and the first shared memory module are disabled when not engaged in wireless communication.

[c10] 10. The system of claim 8, further comprising a second shared memory module, wherein the second shared memory module is independently accessible by the general computing subsystem and the modem computing subsystem, wherein the second shared memory module can be disabled by the general computing subsystem to save power, and wherein a second binary memory image is loaded in the second shared memory module from the nonvolatile memory by the general computing subsystem.

[c11] 11. The system of claim 10, wherein the second binary memory image contains the mobile station modem code sufficient to operate a traffic channel.

[c12] 12. The system of claim 11, wherein the second shared memory module is activated when the modem computing subsystem operates a traffic channel, and the second memory module is deactivated to save power when ceasing to operate the traffic channel.

[c13] 13. A method for saving power in a multi-processor wireless communication system having a paging channel monitor mode, the method comprising:

booting a general computing subsystem;

enabling a modem computing subsystem and entering the paging channel monitor mode; and

disabling the modem computing subsystem to conserve power and exiting the paging channel monitor mode.

[c14] 14. The method of claim 13 wherein the general computing system comprises a nonvolatile memory, the step of enabling the modem computing subsystem further comprising:

providing a clock to a first shared memory module;

loading the first shared memory module with data stored in the nonvolatile memory;

providing the clock to the modem computing subsystem; and

directing the modem computing subsystem processor to execute instructions from the data loaded into the first shared memory module.

[c15] 15. The method of claim 14, wherein the data is a first binary memory image and the general computing subsystem generates the first binary memory image from compressed information stored in a nonvolatile memory.

[c16] 16. The method of claim 14 wherein the data contains mobile station code sufficient to boot the modem computing subsystem and enter the paging channel monitor mode.

[c17] 17. The method of claim 13 for use with a wireless communication system having both a paging channel monitor mode and a traffic channel mode, the method further comprising:

activating a second shared memory module when activation of the traffic channel mode is requested; and

deactivating the second shared memory module when operation in the traffic channel mode is no longer required.

[c18] 18. The method of claim 17 wherein the additional data is a second binary memory image and the general computing subsystem generates the second binary memory image from compressed information stored in the nonvolatile memory.

[c19] 19. The method of claim 17 wherein the step of activating the second shared memory module further comprises:

providing the clock to the second shared memory module;

loading the second shared memory module with additional data stored in the nonvolatile memory;

providing the clock to the modem computing subsystem;

directing the modem computing subsystem processor to execute instructions from the additional data loaded into the second shared memory module.

[c20] 20. The method of claim 19 wherein the additional data contains mobile station modem code sufficient to enable operation in the traffic channel mode.